



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
34-UL-120826 (MHM 13321US01)

PATENT APPLICATION OF:

Steinbacher, et al.

SERIAL NO.: 09/954,808

FILED: September 18, 2001

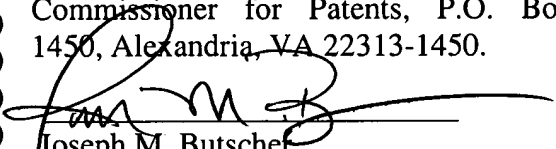
FOR: Methods and Apparatus for  
Ultrasonic Compound Imaging

Examiner: Jung, William C.

Group Art Unit: 3737

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)   
) Joseph M. Butscher  
) Reg. No. 48,326  
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) Date: June 10, 2005  
)

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The Applicants request review of the final rejection in the above-identified application. No amendments are being filed with this request.

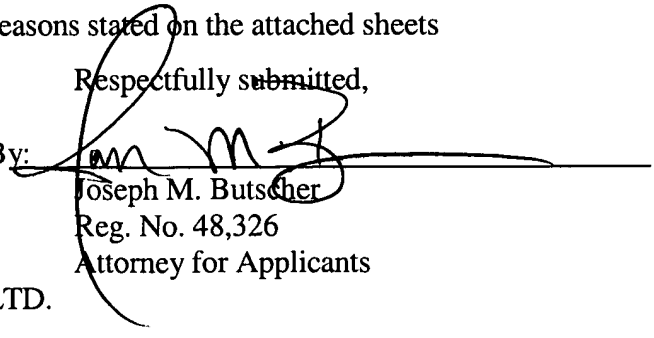
This request is being filed with a notice of appeal.

The review is requested for the reasons stated on the attached sheets

Respectfully submitted,

Date: August 22, 2005

By:

  
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## REMARKS

The present application includes pending claims 1-23, all of which have been rejected. Claims 1-6, 8, 10-17, 19, and 21-23 remain rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 6,315,723 ("Robinson") in view of United States Patent No. 5,980,459 ("Chiao"). Claims 7, and 18 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Robinson in view of Chiao and United States Patent No. 5,873,830 ("Hossack"). The Applicants respectfully traverse these rejections, at least for the following reasons:

**I. The Examiner Concedes That Robinson Does Not Teach, Nor Suggest, "Summing Said First And Second Weight Echoes Along Said Entire Scan Line To Form A Composite Scan Line."**

As an initial matter, the Examiner agrees that Robinson does not teach, nor suggest, "summing said first and second weight echoes along said entire scan line to form a composite scan line in an ultrasound image," as recited, for example, in claim 1 of the present application. *See* June 3, 2005 Office Action at page 2 ("... Examiner agrees that Robinson et al do not disclose explicitly the limitation of summing along said entire scan line"; and "Examiner agrees that Robinson et al do not disclosed summing along same scanlines.").

**II. Chiao Also Does Not Teach, Nor Suggest, "Summing Along Said Entire Scan Line"**

To overcome this deficiency, the Office Action cites column 3, lines 17-29 of Chiao as support for the proposition that a "weighting factor for the multiple scan line involves transmitting multiple ultrasound energy to a same focal position." *See id.* The cited passage of Chiao states the following:

The transmit phases and the "slow-time" filter weightings are designed to selectively enhance the desired modes while suppressing others. In particular, a sequence of broadband pulses with different phases (and possibly different amplitudes) are transmitted to a transmit focal position over multiple firings, and the set of received beamformed signals are multiplied with a set of (possibly complex) scalar weightings before summing together that set of weighted

beamformed signals for subsequent processing to form one image scan line. A complete image is formed by repeating this procedure for multiple transmit focal positions across the region of interest.

Chiao at column 3, lines 17-29. Chiao discloses multiplying a set of scalar weighting before summing together that set of weighted beamformed signals for subsequent processing to form one image scan line. *See id.* Chiao, however, does not teach, nor suggest, “summing first and second weighted echoes **along said entire scan line** to form a composite scan line,” as recited, for example, in claim 1 of the present application. While Chiao does disclose “forming” an image scan line, it does not necessarily teach or suggest “summing first and second weighted echoes along said entire scan line.”

**A. The Examiner Only Asserts That Chiao Inherently Discloses “Summing Along A Same Scan Line,” But Not “Along Said Entire Scan Line”**

Because Chiao does not explicitly disclose “summing along said entire scan line,” the Examiner jumps to the conclusion that “it is **inherent** that Chiao et al’s disclosure is identical to summing along a same scan line.” *See* June 3, 2005 Office Action at page 2. Notably, the Examiner limits the assertion to “summing along a **same** scan line.” The Examiner does not state that Chiao inherently discloses summing “along said **entire** scan line.” Moreover, as discussed above, the Examiner concedes that Robinson does not teach, nor suggest, “summing said first and second weight echoes along said **entire** scan line to form a composite scan line in an ultrasound image,” as recited, for example, in claim 1 of the present application. *See* June 3, 2005 Office Action at page 2.

Even if one were to assume that Chiao did inherently disclose “summing along a **same** scan line,” the Examiner still has not attempted to establish that Chiao inherently discloses “summing along said **entire** scan line.” Thus, the Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness at least because the combination of Robinson and Chiao does not teach or suggest **all** the claim limitations.

## **B. The Examiner Has Not Supported The Conclusory Assertion Of Inherency**

Additionally, the Examiner concedes that “summing along said entire scan line” is not explicitly found in Chiao. *See* July 27, 2005 Advisory Action at page 2. As noted above, the Examiner summarily concludes that such a limitation is **inherently** found in Chiao. *See* June 3, 2005 Office Action at page 2. In particular, the Examiner somehow concludes that because “Chiao et al discloses summation method where the weighting of the multiple scan line involves transmitting multiple ultrasound energy to a same focal position, therefore, it is inherent that Chiao et al.’s disclosure is identical to summing along a same scan line.” *See id* The Applicants respectfully submit, however, that the Office Action does not contain a basis in fact and/or technical reasoning to support the assertion of inherency. *See* June 10, 2005 Response Under 37 C.F.R. § 1.116 at pages 3-4. Instead, as shown above, the Examiner only offers a conclusory statement to support the assertion of inherency. Therefore, the rejection is improper.

Even assuming that the Examiner did provide a basis in fact and/or technical reasoning that “summing along a **same** scan line” is inherent, the Examiner still has not shown that summing “along said **entire** scan line” is explicitly or inherently disclosed in Robinson or Chiao. Thus, at least for this reasons discussed above, the Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness.

## **III. Conclusion**


As noted above, Robinson does not teach, nor suggest, “summing first and second weighted echoes **along said entire scan line** to form a composite scan line.” Similarly, Chiao also does not expressly or inherently teach or disclose this limitation. Because neither Robinson or Chiao teach this limitation, the combination, by definition, also does not teach, nor suggest, this limitation. Thus, at least for this reason, the Applicants respectfully submit that the Examiner has not established a *prima facie* case of obviousness with respect to the claims of the present application.

In view of the foregoing, it is respectfully submitted that pending claims of the present application define allowable subject matter. The Applicants respectfully request

reconsideration of the claim rejections. Please charge any fees or credit overpayment to  
Deposit Account 07-0845.

Respectfully submitted,

Date: August 22, 2005

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